

IN THE CLAIMS:

28. (Twice Amended) An encoding apparatus for encoding source video data which had previously been encoded at a previous encoding process and had previously been decoded at a previous decoding process, said apparatus comprising:

means for receiving said source video data;

means for extracting coding information from said source video data, wherein said coding information relates to a coding operation of said previous encoding process; and

means for encoding said source video data in accordance with said coding information,

wherein the coding information is identified by the structure of a group of pictures within the source video data.

29. (Twice Amended) An encoding method for encoding source video data which had previously been encoded at a previous encoding process and had previously been decoded at a previous decoding process, the method comprising the steps of:

receiving said source video data;

extracting coding information from said source video data, wherein said coding information relates to a coding operation of said previous encoding process; and

encoding said source video data in accordance with said coding information,

wherein the coding information is identified by the structure of a group of pictures within the source video data.

30. (Twice Amended) An encoding apparatus for encoding source video data, said apparatus comprising:

means for receiving said source video data, wherein said source video data had previously been encoded at a previous encoding process, and for receiving coding information relating to a coding operation of said previous encoding process; and
means for encoding said source video data in accordance with said coding information, wherein the coding information is identified by the structure of a group of pictures within the source video data.

31. (Twice Amended) An encoding method for encoding source video data, the method comprising the steps of:

receiving said source video data, wherein said source video data had previously been encoded at a previous encoding process, and for receiving coding information relating to a coding operation of said previous encoding process; and
encoding said source video data in accordance with said coding information, wherein the coding information is identified by the structure of a group of pictures within the source video data.

32. (Twice Amended) An encoding apparatus for encoding source video data, said apparatus comprising:

means for receiving a group of pictures within said source video data, wherein said group of pictures had previously been encoded at a previous encoding process;

means for receiving picture coding type indicating which of I-picture, P-picture or B-picture had been associated with said previous encoding process; and
means for encoding each of said pictures so that each picture is encoded by using the same picture coding type as said picture coding type of said previous encoding process,
wherein the picture coding type is identified by the structure of a group of pictures within the source video data.

33. (Twice Amended) An encoding method for encoding source video data, the method comprising the steps of:
receiving a group of pictures within said source video data, wherein said group of pictures had previously been encoded at a previous encoding process;
receiving picture coding type indicating which of I-picture, P-picture or B-picture had been associated with said previous encoding process; and
encoding each of said pictures so that each picture is encoded by using the same picture coding type as said picture coding type of said previous encoding process,
wherein the picture coding type is identified by the structure of a group of pictures within the source video data.

34. (Twice Amended) A decoding apparatus for decoding an encoded bit stream which had been encoded at a previous encoding process, said apparatus comprising:
means for decoding said encoded bit stream to generate decoded video data in accordance with coding information relating to a coding operation of said previous encoding process;

means for multiplexing said decoded video data and said coding information to generate multiplexed data; and

means for transmitting said multiplexed data so that said coding information will be used in a later encoding process,

wherein the coding information is identified by the structure of a group of pictures within the video data.

35. (Twice Amended) A decoding method for decoding an encoded bit stream which had been encoded at a previous encoding process, the method comprising the steps of:

decoding said encoded bit stream to generate decoded video data in accordance with coding information relating to a coding operation of said previous encoding process;

multiplexing said decoded video data and said coding information to generate multiplexed data; and

transmitting said multiplexed data so that said coding information will be used in a later encoding process,

wherein the coding information is identified by the structure of a group of pictures within the video data.

36. (Twice Amended) A decoding apparatus for decoding an encoded bit stream which had been encoded at a previous encoding process, said apparatus comprising:

means for decoding said encoded bit stream to generate decoded video data;

means for multiplexing said decoded video data and coding information relating to a coding operation of said previous encoding process; and

means for transmitting the multiplexed data so that said coding information will be used in a later encoding process,

wherein the coding information is identified by the structure of a group of pictures within the video data.

37. (Twice Amended) A decoding method for decoding an encoded bit stream which had been encoded at a previous encoding process, the method comprising the steps of:

decoding said encoded bit stream to generate decoded video data;

multiplexing said decoded video data and coding information relating to a coding operation of said previous encoding process; and

transmitting the multiplexed data so that said coding information will be used in a later encoding process,

wherein the coding information is identified by the structure of a group of pictures within the video data.

38. (Twice Amended) A decoding apparatus for decoding an encoded bit stream which had been encoded at a previous encoding process, said apparatus comprising:

means for extracting coding information from said encoded bit stream, wherein said coding information relates to a coding operation of said previous encoding process;

means for decoding said encoded bit stream to generate decoded video data in accordance with said coding information; and

means for transmitting said decoded video data and said coding information so that said coding information will be used in a later encoding process for said decoded video data,

wherein the coding information is identified by the structure of a group of pictures within the video data.

39. (Twice Amended) A decoding method for decoding an encoded bit stream which had been encoded at a previous encoding process, the method comprising the steps of:
extracting coding information from said encoded bit stream, wherein said coding information relates to a coding operation of said previous encoding process;
decoding said encoded bit stream to generate decoded video data in accordance with said coding information; and
transmitting said decoded video data and said coding information so that said coding information will be used in a later encoding process for said decoded video data,
wherein the coding information is identified by the structure of a group of pictures within the video data.

40. (Twice Amended) A decoding apparatus for decoding an encoded bit stream which had been encoded at a previous encoding process, said apparatus comprising:
means for extracting coding information from said encoded bit stream, wherein said coding information relates to a coding operation of said previous encoding process;
means for decoding said encoded bit stream to generate decoded video data; and
means for transmitting the decoded video data and said coding information so that said coding information will be used in a later encoding process for said decoded video data,
wherein the coding information is identified by the structure of a group of pictures within the video data.

41. (Twice Amended) A decoding method for decoding an encoded bit stream which had been encoded at a previous encoding process, the method comprising the steps of:
extracting coding information from said encoded bit stream, wherein said coding information relates to a coding operation of said previous encoding process;
decoding said encoded bit stream to generate decoded video data; and
transmitting the decoded video data and said coding information so that said coding information will be used in a later encoding process for said decoded video data,
wherein the coding information is identified by the structure of a group of pictures within the video data.

42. (Twice Amended) A decoding apparatus for decoding an encoded bit stream which had been encoded at a previous encoding process, said apparatus comprising:
means for extracting picture coding type from said encoded bit stream, wherein said picture coding type indicates which of I-picture, P-picture, or B-Picture had been associated with said previous encoding process;
means for decoding each picture within said encoded bit stream to generate decoded video data; and
means for transmitting said decoded video data and said picture coding type so that each said picture will be encoded by using the same picture coding type as said picture coding type in a later encoding process for said decoded video data,
wherein the picture coding type is identified by the structure of a group of pictures within the video data.

43. (Twice Amended) A decoding method for decoding an encoded bit stream which had been encoded at a previous encoding process, the method comprising the steps of:
extracting picture coding type from said encoded bit stream, wherein said picture coding type indicates which of I-picture, P-picture, or B-Picture had been associated with said previous encoding process;
decoding each picture within said encoded bit stream to generate decoded video data; and
transmitting said decoded video data and said picture coding type so that each said picture will be encoded by using the same picture coding type as said picture coding type in a later encoding process for said decoded video data,
wherein the picture coding type is identified by the structure of a group of pictures within the video data.

44. (Twice Amended) A coding system for performing a decoding process and an encoding process to an encoded bit stream which had been encoded at a previous encoding process, the system comprising:
decoding means for decoding said encoded bit stream to generate decoded video data, and for outputting coding information relating to a coding operation of said previous encoding process; and
encoding means for encoding said decoded video data based on said coding information transmitted from said decoding means,
wherein the coding information is identified by the structure of a group of pictures within the video data.

45. (Twice Amended) A coding method for performing a decoding process and an encoding process to an encoded bit stream which had been encoded at a previous encoding process, the method comprising the steps of:

decoding said encoded bit stream by use of a decoder to generate decoded video data and outputting coding information relating to a coding operation of said previous encoding process;
and

encoding said decoded video data based on said coding information transmitted from said decoder,

wherein the coding information is identified by the structure of a group of pictures within the video data.

46. (Twice Amended) A coding system for performing a decoding process and an encoding process to an encoded bit stream which had been encoded at a previous encoding process, the system comprising:

decoding means for decoding said encoded bit stream to generate decoded video data;
encoding means for encoding said decoded video data; and
means for controlling a coding operation of said encoding means in accordance with coding information relating to a coding operation of said previous encoding process,

wherein the coding information is identified by the structure of a group of pictures within the video data.

47. (Twice Amended) A coding method for performing a decoding process and an encoding process to an encoded bit stream which had been encoded at a previous encoding process, the method comprising the steps of:

decoding said encoded bit stream to generate decoded video data;

encoding said decoded video data by use of an encoder; and

controlling a coding operation of said encoder in accordance with coding information relating to a coding operation of said previous encoding process,

wherein the coding information is identified by the structure of a group of pictures within the video data.

48. (New) The encoding apparatus of claim 32, wherein the structure of the group of pictures is identified by:

a same minimum number of frames between the I-picture and the P-picture, the P-picture and another P-picture and the I-picture and another I-picture; and

a total number of frames in the group of pictures.

49. (New) The encoding apparatus of claim 48, wherein the type of encoding for each picture in the group of pictures is determined by the location of a respective picture within the group of pictures.

50. (New) The encoding method of claim 33, wherein the structure of the group of pictures is identified by:

a same minimum number of frames between the I-picture and the P-picture, the P-picture and another P-picture and the I-picture and another I-picture; and
a total number of frames in the group of pictures.

51. (New) The encoding method of claim 50, wherein the type of encoding for each picture in the group of pictures is determined by the location of a respective picture within the group of pictures.